

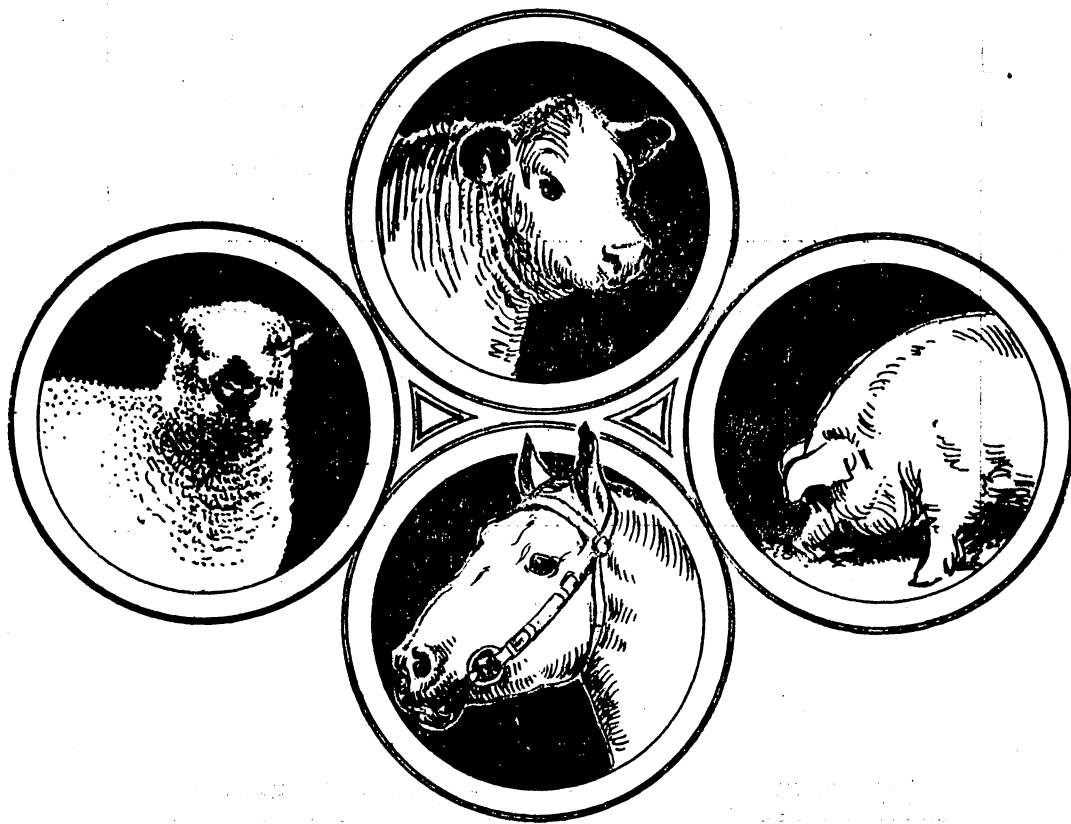
Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

1.9
m528

RECEIVED
★ JUL 21 1928 ★

The EXTENSION ANIMAL HUSBANDMAN



UNITED STATES DEPARTMENT
OF AGRICULTURE
WASHINGTON,
D.C.

Serial No. 10

June, 1928

No conqueror can make the multitude different from what it is; no statesman can carry the world's affairs beyond the ideas and capacities of the generation of adults with which he deals; but teachers — I use the word in the wisest sense — can do more than either conqueror or statesman — they can create a new vision and liberate the latent powers of our kind.

---- H. G. Wells.

All communications regarding this publication, which is issued quarterly, should be addressed to:

C. D. Lowe,
Extension Animal Husbandman,
U. S. Department of Agriculture,
Washington, D. C.

UNITED STATES DEPARTMENT OF AGRICULTURE

Washington, D. C.

THE EXTENSION ANIMAL HUSBANDMAN

Issued by the Bureau of Animal Industry and the
Office of Cooperative Extension Work Cooperating.

Serial Number 10 --

-- June, 1928.

This number has a circulation of 425 copies. The mailing list is made up primarily of animal husbandmen and extension administrators, although a number of other persons representing the livestock industry in allied lines of work also are included. Recipients of occasional copies and others interested may have their addresses placed on the regular mailing list upon request. The intention is to make this publication a medium for the exchange of information among all those who have responsibility in livestock educational activities.

Arkansas wants to know if anyone has produced an official ton-litter, farrowed in the fall, that weighed more than 3,000 pounds at 6 months of age.

The "trial orders" mentioned in the last issue as well as the usual number of "repeats" have been coming in recently. Who's next for service?

If you have a bit of news
Send it in,
Something that will amuse,
Send it in,
A story that is true,
An incident that's new,
We want to hear from you,
Send it in.

Don't wait a month to do it,
Send it in,
Don't let 'em beat you to it,
Send it in,
Something serious or a jest,
Just whichever you like best,
The editor will do the rest,
Send it in.

SOME SEASONAL VARIATIONS IN THE FLEECES
OF RANGE RAMBOUILLET EWES

By Mary J. Brandon
Wool Specialist, Bureau of Animal Industry

The U. S. Department of Agriculture recently has completed a detailed study of the various factors which influence the growth of the fleeces of Rambouillet ewes. This material includes data on 1,496 fleeces grown at the U. S. Sheep Experiment Station, Dubois, Idaho, in 1921, 1923, and 1924 and tested at Beltsville, Md., for yield of clean wool per fleece. The details of this work are being reported in Technical Bulletin 85. The fleeces of 1922 were used in a special experiment and were not available for this investigation. The large number of fleeces and the number of years involved, render this accumulation of data useful for a study of seasonal variation in fleeces. Complete fleece data for the three years are available from only 140 ewes, due largely to the fact that a rigid system of culling eliminates most ewes over 6 years of age from the flock.

Climate plays an important part in range sheep production, particularly from the standpoint of forage growth. The year during which the 1921 clip was grown was above the average in this respect with considerable rainfall and good growing weather. The 1923 clip was grown in a dry season, the precipitation being about 25 per cent less than the average rainfall for Dubois, Idaho. The clip of 1924 was grown during a season that was about average.

Variations in the clean weight of wool and the length from year to year are probably of greatest interest to the grower, and the table below shows such variations together with those for unscoured weight, for ewes of different ages.

Table 1. - Annual averages in clean weight and length of wool in relation to age of ewe.

Ewes born in	Factors	1921	1923	1924	Number Considered
1915	Unscoured wt.(pounds)	11.75	9.50	10.00	4
	Clean " "	5.00	3.25	3.25	4
	Length (inches)	2.55	1.93	1.93	4
1916	Unscoured wt.(pounds)	12.50	10.50	11.39	9
	Clean " "	4.39	2.94	3.61	9
	Length (inches)	2.30	2.08	1.74	9

(Continued next page)

Table 1 (Continued)

Ewes Born in	Factor	1921	1923	1924	Number Considered
1917	Unscoured wt. (pounds)	11.69	9.69	10.63	16
	Clean " "	4.50	3.06	3.19	16
	Length (inches)	2.18	1.83	1.74	16
1918	Unscoured wt. (pounds)	12.45	10.55	11.60	40
	Clean " "	5.18	3.45	3.65	40
	Length (inches)	2.33	2.04	1.96	40
1919	Unscoured wt. (pounds)	10.72	10.72	11.69	54
	Clean " "	4.50	3.72	3.74	54
	Length (inches)	2.36	2.14	2.00	54
1920	Unscoured wt. (pounds)	9.68	9.68	11.32	17
	Clean " "	4.03	3.56	3.91	17
	Length (inches)	2.65	2.21	2.09	17
All Ages	Unscoured wt. (pounds)	11.34	10.38	11.43	140
	Clean " "	4.64	3.49	3.65	140
	Length (inches)	2.36	2.08	1.95	140

It will be observed that there is an average loss of 1.15 pounds in clean weight of fleece between 1921 and 1923, and a gain of 0.16 pound between 1923 and 1924. In the two youngest groups this fluctuation is not so apparent in the unscoured weights, but is just as consistent for clean weight as in the other groups. Length presents a peculiar situation in that there is an average drop of 0.23 inch between 1921 and 1923, and another drop of 0.13 inch in 1924, when in view of the variation in weight of the clean wool per fleece a slight gain in length would be expected. In considering this point it must be remembered that the age factor affects this group of ewes, especially because the identity of the individuals remains constant for the three years. As will be reported in Technical Bulletin 85, a group of 1516 ewes showed a consistent decline in length from 2.43 to 1.92 inches between the ages of 1 and 7 years. Consequently the decline in length from 1921 to 1924 seems entirely reasonable and shows a tendency stronger than seasonal effect. The gain in clean wool for the period must be explained by some seasonal variation in the physical substance of the wool.

Relation of Average Length of Weight to Clean Wool per Fleece

In the table below the distribution of the group is given according to clean weight of fleece, showing the average length for each class.

Table 2. - Annual averages of length in relation to the clean weight of fleece

Pounds of clean wool											
: 2.0 to 2.99:3.0 to 3.99:4.0 to 4.99:5.0 to 5.99:6.0 to 6.99:7.0 to 7.99											
Year:	No.:	Av. Lenth:	No.:	Av. Lenth:	No.:	Av. Lenth:	No.:	Av. Lenth:	No.:	Av. Lenth:	No.:
:	:	(inches):	:	(inches):	:	(inches):	:	(inches):	:	(inches):	:
1921:	3	: 1.97	: 31:	2.07	: 58:	2.43	: 40:	2.50	: 7	: 2.59	: 1
1923:	28	: 1.91	: 83:	2.09	: 22:	2.21	: 2:	2.30	: -	: ---	: -
1924:	19	: 1.75	: 84:	1.94	: 34:	2.08	: 3:	2.13	: -	: ---	: -

Table 2 shows that there is a definite increase in average length as the clean weight of the fleece increases but the decrease in length from 1921 to 1924 is again evident as in Table 1. The distribution of individuals shows that the greatest number of ewes fell into the 4-pound (clean wool) class in 1921 and that the frequencies drop back one class in 1923, with a slight change in the other direction in 1924.

Variations in Groups of Fleeces from Year to Year

In order to show more specifically the variations in groups of fleeces from year to year in Table 3, the 140 ewes are grouped according to their clean weights of fleeces in 1921 and the average clean weight for each group is shown for the other two years.

Table 3. - Variations in average fleece weights by groups for different years.

Ave. clean wt. of fleece in 1921 (pounds)	Number of ewes	Ave. clean wt. of fleece in 1923 (pounds)	Ave. clean wt. of fleece in 1924 (pounds)
2.5	3	3.17	3.17
3.5	31	3.31	3.47
4.5	58	3.38	3.59
5.5	40	3.70	3.80
6.5	7	4.07	4.36
7.5	1*	3.50	3.50
4.64 (All ewes)	140	3.49	3.65

* The fleece weight of this ewe in 1921 seems to have been abnormal.

Omitting the first and last groups which contain too few individuals to be significant, it is interesting to note that each of these groups (in which the identity of the individuals does not change from year to year) shows practically the same variation between the years as does the average of all ewes. Especially, the data show that the groups with heavier average clean weights in 1921 remain consistently heavier in 1923 and 1924, even though the scale of weights is lower.

Table 4 presents the data in the same way for length of staple and shows a fairly consistent decline in length with each year for each group. It definitely shows that the groups producing longer staple in 1921 continue to produce longer staple in 1923 and 1924, even though the scale of lengths was lower.

Table 4. - Variations in the average length of staple in different years.

Ave. length in 1921	No. ewes	Ave. length in 1923	Ave. length in 1924
(inches)		(inches)	(inches)
1.3	1	1.8	2.3
1.8	29	1.82	1.75
2.3	67	2.09	1.93
2.8	37	2.21	2.08
3.3	6	2.38	2.38
(All) 2.36	140	2.08	1.95

Correlation Between Seasons
for Clean Weights of Wool and Lengths.

The one figure which best expresses the variation of each ewe's fleece from one year to the next is the coefficient of correlation. Since the expression of perfect correlation is 1, it is obvious that if each fleece changed exactly at the same proportionate rate between the years, the coefficient of correlation would be 1, or perfect. The following coefficients show to what degree each of the factors, unscoured weight, clean weight, and length, correlate with themselves between seasons.

Coefficients of correlation								
Correlation of factors with themselves in different years								
Correlations of	:	Correlations of	:	Correlations of	:	Correlations of	:	Correlations of
1921 with 1923.	:	1921 with 1924.	:	1923 with 1924.	:	1923 with 1924.	:	1923 with 1924.
Unscoured:Clean wt.:Length:		Unscoured:Clean wt.:Length:		Unscoured:Clean wt.:Length:		Unscoured:Clean wt.:Length:		Unscoured:Clean wt.:Length:
weight	:	weight	:	weight	:	weight	:	weight
.35±.05	:	.29±.05	:	.47±.04	:	.27±.05	:	.28±.05
	:		:		:		:	.46±.04
	:		:		:		:	.73±.03
	:		:		:		:	.51±.04
	:		:		:		:	.50±.04

Judging from these figures 1921 fails to correlate closely with either of the other years in any of the factors, with the possible exception of length. The correlation of 1923 with 1924 however, is comparatively high for all factors. This would indicate that, since the clip of 1921 was grown during an unusual year, a continued study might show a closer relationship between seasons than is indicated by the preceding tables.

Summary

The results reported above are based on a study of 140 range Rambouillet ewes with fleece data complete for the years 1921, 1923, and 1924. The data show the following:

- (1) Neither individual ewes nor one flock produced fleeces of the same weight and length in successive years.

- (2) Ewes having heavier fleeces one year produced consistently heavier fleeces in successive years, even though the season reduced the scale as a whole.
- (3) Ewes producing longer staple in 1921 also produced longer staple in successive years, even though the scale of length was lower.
- (4) Length was influenced primarily by age rather than season, but seasonal effects tended to increase the weight to some extent in spite of this decline in length.
- (5) Between the years 1923 and 1924 there was a noticeable correlation of individuals in unscoured weight, clean weight, and length.

U. S. RANGE LIVESTOCK EXPERIMENT STATION CONFERENCE

August 20 to 25 is the time set for the conference of range livestock research forces at the U. S. Range Livestock Experiment Station, Miles City, Montana.

The first three days will be devoted largely to conferences and meetings in which plans for the future research program of the station will be formulated. On Thursday, formal dedication ceremonies of the station will be held. All animal husbandry workers and other livestock men will be welcome to attend all sessions.

A WORD TO THE WISE--

"In promulgating your esoteric cogitations or in articulating superficial sentimentalities and philosophical or psychological observations, beware of platitudinous ponderosity. Let your conversation possess clarified conciseness, compacted comprehensiveness, coalescent consistency, and concatenated cogney. Eschew all conglomerations, flatulent garrulity, jejune babblement, and asinine affections. Let your extemporaneous decantations and unpremeditated expatiations have intelligibility without rhodomontade or trasonical bombast. Sedulously avoid all polysyllabical profundity, pompous prolixity and ventriloquial verbosity.

"In other words, speak truthfully, naturally, clearly, simply. Don't use big words."

--- The Engineer.

WHAT'S NEW IN THE STATES

New Mexico

W. L. Black has been appointed livestock extension specialist to succeed Milton R. Sharp, resigned.

South Dakota

W. R. Hauser, who has served as animal husbandry specialist for several years, has been transferred to club work as assistant State leader.

Florida

John M. Scott, vice director of the experiment station and head of the department of animal industry, who has devoted part time to extension, has resigned to accept a position with the State department of agriculture.

Wisconsin

I have resigned my position as extension specialist in animal husbandry, effective June 30, and will take over the management of a farm in Erie County, Pennsylvania.

--- H. J. Brant

Arkansas

I am planning to go to Kentucky for some summer work and will leave here June 8. I expect to use a summary of our early lamb program here, which has been followed for about three years, as a basis for a master's degree thesis.

--- M. W. Muldrow

Ohio

L. P. McCann, associate professor of animal husbandry at the Colorado Agricultural College has received official notice of his appointment as extension specialist in animal husbandry to succeed Paul Gerlaugh, resigned. He is expected to report for duty July 1st.

--- J. W. Wuichet

Mississippi

A new and one of the most hopeful of our sub-projects is the lamb-production club for which we are now making preparation. Sheep growing in a small way is not a new industry in some sections of the State. The purpose of the lamb-production club is to standardize the production of early lambs. Looking towards this, a party of sheepmen with myself will tour middle Tennessee this summer for the purpose of buying purebred mutton rams. At least two of our older breeders will purchase purebred ewes also, in order that they may supply more conveniently our demand for purebred rams.

--- Paul F. Newell

Maryland

At present there are about 15 purebred Hereford bulls and 2 purebred Aberdeen-Angus bulls in the great tobacco-growing section of

the State. Here the production of livestock is a great factor in the maintenance of soil fertility. At first, most of the owners of these bulls planned to sell their calves as vealers or as feeder steers, but now most of them are being finished on the farms where they are produced. This is quite a departure for Maryland but is proving a very popular practice as indicated by the fact that 6 of these farmers now have started purebred cow herds. -- K. A. Clark

Utah

Our 4-H purebred-Cotswold-sheep club was organized in Wasatch County about 18 months ago with 11 members. Each of the boys purchased purebred ewes from one of the best flocks in the State. A ram costing \$125. was bought on the cooperative plan. The returns from the first crop of lambs were sufficient in most cases to enable the boys to pay for their foundation ewes. The lambs of 1928 were officially weighed on May 21 and are a very promising lot. They will be weighed again in August. We also have purebred sheep clubs of the Rambouillet, Hampshire and Lincoln breeds. -- D. P. Murray

Michigan

Horse-hitch demonstrations are meeting with considerable enthusiasm with us. It looks as if the "bucking back" and "tying in" system of handling 4, 5, 6 and 8 horse teams will be adopted on a great many farms.

"Larry" Kauffman's "Ram Special" idea was made over to fit a truck in order to reach some communities interested in farm flocks. The State sheep breeders' association sent this "buck truck" through 6 counties last fall where ten meetings were held and 21 registered rams were sold. Many of these rams went to farmers who habitually used scrub or grade rams before. Considerable demand is being expressed to have this program take in more territory this fall.

--- V. A. Freeman

Georgia

The College of Agriculture started ton-litter work in 1924 and has continued it to date.

Charles Slappy, a pig-club boy of Sumter County won the champion litter prize in 1927. His litter of 11 Durocs weighed 3,395 pounds at 180 days of age. They were produced at a cost of \$211.16, and sold for \$411.86 leaving a profit of \$200.70. In addition to this he won \$559.00 in prizes. This gave Charles a nice bank account. He expects to use it towards a course in the agricultural college, starting this fall.

In the 1928 enrollment of our ton-litter contestants there are a great many names that were in the 1927 contest. This is proof aplenty that the farmers are getting results from ton-litters in Georgia.

--- W. G. Owens

Connecticut

Five hundred Connecticut sheep owners and their friends attended the annual shearing contest of the Connecticut Sheep Breeders' Association at Eastland Farms, Pomfret Center, on May 12. Connecticut Agricultural College students won most of the prizes in the various classes, Wesley Garrigus, son of Professor H. L. Garrigus being made State champion.

C. V. B. Cushman, President of the sheep breeders association was host and the speakers were Prof. W. L. Henning, Pennsylvania State College; J. C. Cort, Boston; J. A. Stoehr, United States Government sheep farm and C. D. Richardson, Brookfield, Mass.

Demonstrations of docking, dipping, drenching, etc., were given and seven breeds of sheep were exhibited. Sam Stoddard and "Spot" gave a fine demonstration "sheep drive" and Mr. Cushman put several of his best horses over the jumps. Genuine Connecticut spring lamb featured the lunch furnished by Mr. Cushman.

--- L. V. Tirrell

South Carolina

We conducted in 1927 forty-four complete feeding demonstrations not including ton-litters, in which 414 hogs made a total gain of 28,524 pounds covering an average period of 43.3 days. It took 6.09 bushels of corn with 31.6 pounds of fish meal and 9.7 pounds of wheat shorts to make each 100 pounds of gain. The average gain per day was 1.6 pounds. After the cost of the shorts and fish meal was deducted the hogs returned \$1.75 per bushel for the corn consumed.

Starting with three cars one year ago this feature has grown so that cooperative shipments from the coastal section of the State number 87 cars to date. Our demonstration fed hogs have sold straight at the top price on the Richmond market without cut backs or throw outs and no dock for "soft" or "oily" hogs.

At the present time we are very firmly convinced that these feeding demonstrations furnish a practical method of reaching the farmer's problems in hog production. First, they show the advantages of full feeding on a balanced ration and the necessity of using a protein supplement for corn. Second, the superiority of well-bred hogs over common stock is apparent. Third, the advantages of a good system of management, including sanitation, grazing crops, timely breeding, farrowing and marketing, and the use of better equipment are demonstrated.

-- J. R. Hawkins

New York

A 4-H sheep club was organized in Orange County, N. Y., in the spring of 1926. Two years ago while speaking to a group of high-school boys in the village of Pine Bush, I learned that five of the boys each owned from three to thirty head of sheep. Of course these boys, like most wide-awake boys, became interested in 4-H club work. In a short time a club of five members was organized. They owned a total of fifty or sixty head of scrub sheep. During the first year one boy bought a purebred ram and about seven purebred ewes and another boy bought six

purebred ewes. The next year, however, five purebred rams were used by the members of the club.

Several meetings have been held during the past two years at the boys' homes. Several demonstrations have been conducted at these meetings. The boys have been taught to dock and castrate their lambs, tie their wool with wool twine instead of binder twine, to shear sheep, and so on. They had never done anything like this before becoming club members. This spring they were taught how to slaughter and dress hot-house lambs. One day early in April I met with the boys and we slaughtered and dressed four lambs. The lambs butchered were dropped in February. The club member who owned them shipped them to New York City. A short time ago he informed me that he had dressed and shipped altogether twelve of these lambs and they had netted him better than \$12.00 each. At the present time the seven boys who are in the club own a total of over two hundred sheep (including lambs) about one-third of which are purebred. Two years ago not one of them was a purebred. Through the club the boys have learned a great deal about sheep and at the same time have made money and have improved and increased their flocks, and have had some fun while doing it. --John P. Willman.

Washington

We have just completed our second year's project work on feeding baby beef. The figures on different lots of the calves are interesting.

In 1926, a lot of calves was weighed into the feed lot at 532 pounds per head. Another owner's lot of calves weighed into the feed lot the same day at 450 pounds per head. At marketing time the first lot averaged 872 pounds while the others weighed only 756. Both lots sold for 11 cents per pound, the heavier lot bringing on an average \$12.76 more per calf than the lighter lot.

The cows owned by these two men had come from the same foundation and were run on the same range, being bred before going on in the spring. They were both fed according to our instructions and we feel had an equal chance.

This year, the difference between the two lots of calves was even greater. One weighed 475 pounds into the feed lot and 868 on the market. The other weighed 425 pounds into the feed lot and 687 on the market. They brought 12 cents per pound. The first lot brought on the average \$21.72 per head more than the other one.

The bulls used by the two men were just opposite in type. The one siring the heavy calves was big, deep, long bodied, and heavy boned. The bull siring the light calves was smooth, small, thick fleshed, and of extreme quality. The owner of the latter bull had the idea that in order to get good baby beef calves, he must have a baby beef type of bull. When he saw how much it was costing him, he changed his opinion entirely.

Weight for age is a factor that is inclined to be overlooked by some of our livestock breeders, and it is especially important in baby-beef calves. --- J. K. Ford.

Introducing Big Teams on Illinois Farms

by E. T. Robbins

Livestock Extension Specialist, University of Illinois.

Thus far this year the University of Illinois has held 24 farm demonstrations with big team hitches. Some other demonstrations have been held by county agents without help. Most of the demonstrations were held in April when farmers were busy. The total number attending the 24 field meetings was 1,027, or an average of 43. Of course these included the men in the community who were most interested. Each one had a good opportunity to see and learn all about it, and to try his hand at driving, if he wished.

More demonstrations will be held after harvest. County agents who helped with demonstrations this spring will give other demonstrations without help after harvest. This work is a continuation of a long-time program of promoting larger hitches in Illinois. During the past 10 years we have demonstrated the advantages of tandem hitches for gang plows. During the last 5 years we have given increasing emphasis to larger teams, as fast as farmers became accustomed to working at least one team in front of another. During the last 2 years we have used buck ropes and tie chains at all demonstrations, so as to drive any number of horses with only one pair of lines. This has helped very much to popularize the project, and it has added a new feature to call fresh attention to it.

We seldom take anything to the demonstration farm excepting some buck ropes and tie chains and literature to give out. The Illinois Circular 324 "Big Teams on Illinois Farms" seems to fill this requirement very well. It was just published this spring. There has been a big demand for it and the second edition has already been printed.

If the demonstration is to be held in the afternoon I like to get there in the morning and help make the parts which are needed for the special eveners. This year we have used the Talkington eveners almost altogether because farmers generally have voted their preference for them when others have been used also. Some pieces of discarded eveners or sometimes pieces of narrow bridge plank are used for the special parts. Common clevises and log chains already on the farm are used to put them together. All farms have regular doubletrees, single-trees, and eveners for three and four horses, and these are used where needed. Thus when we get through that farmer at least has his own outfit to keep on working, and it usually has cost him nothing. This feature

has seemed to help very much to keep that man going and to get others to follow his example. At any rate the idea has spread in each community.

These home-made outfits often are not so handsome nor so strong as those which a demonstrator might take with him from place to place but they do the work. When there is some doubt about the hind eveners or clevises standing the strain, as with an 8-horse team for instance, I use a log chain for a stay chain, fastening one end securely to the implement frame and the other end to the main draw chain, leaving about 2 feet of slack. Then if some part should break the lead team would still be fast to the implement and the buck ropes would prevent a runaway.

The only part we have ever broken was one clevis behind an 8-horse team, and we never have had a runaway or a serious accident. Such few little mixups as have occurred were caused by wild horses, colts or the carelessness of some driver. I seldom drive. If they do not drive when I am there they probably will not do so after I have gone. The more different men we can induce to get on and drive, the better the demonstration "takes." I encourage them to think that it is easy, and not to worry even if a horse does get over a chain or a trace. They see that even if there is a little kicking and squealing, as happens once in a while, the horses all live through it and then the outfit goes ahead.

Farmers are gaining confidence. Wm. and Alfred Odiorne of Sangamon County made an outfit for 8 mules, with a truck and 3-bottom tractor plow like the one shown in Illinois Circular 324. They hitched up 8 mules, 2 of which had run off that morning and 2 of which were colts that had just been harnessed for the first time. They had made their own buck ropes and tie chains, and had not spent a cent for new stuff. The outfit worked so well that it was hard to notice which ones were the colts. C. P. Griffiths of Hancock County used directions and pictures which we sent him and made a similar complete outfit for 8 horses and a tractor plow. He spent only \$2.50 for new materials. When I got there the hired man was plowing right along, driving with only two lines.

The demonstrations and the publicity about them have attracted so much attention that farmers all over the State are interested now. They are rapidly abandoning the old 4-abreast hitch for gang plows and using the better hitches and more horses so as to speed up the work. Interest in larger implements is spreading. Some second-hand 3-bottom tractor plows, bought for from \$7 to \$50, are doing fine work behind 8-horse teams. Two gang plows have been hooked together and handled by one man and 12 horses.

Several 10 and 12 horse teams are in use. W. S. Corsa of

Greene County uses a 12-horse team on a 4-bottom tractor plow and several 8-horse teams on plows and disks, sometimes with harrows attached. Chris. Gerber of Livingston County uses a 12-horse team on a 4-bottom tractor plow. This spring five 8-horse teams were used in his neighborhood on disks. Each outfit had two 9-foot disks, fastened together so as to disk down 6 stalk rows at a time when putting in oats. W. L. Seltzer of Will County used a 10-horse team on a tandem disk with harrow attached. Col. George G. Seaman of Christian County has had several 8-horse teams going the last 2 years. Last harvest he used an 8-horse team on his 12-foot harvester-thresher combine. Chas. Drury of Morgan County handled his 10-foot combine with from 4 to 8 horses depending upon the ground and the weather. In this way they got along with one less man on the combine and saved considerable other expense as compared with tractor operation.

The most popular new outfit for plowing seems to be the 6-horse Talkington hitch with 3 horses in front of the other 3 on a common 2-bottom gang plow. With a section of harrow attached the ground is harrowed twice at the same time that it is plowed. Inasmuch as every farmer has to plow and harrow, the new outfit usually costs him nothing and it plows 2 acres a day more than the same plow with 4 horses abreast.

Six horses on a gang plow with a section of harrow attached did most of the plowing on the university farm this spring and all the men were well pleased with the outfit and the work. Last year L. H. Raffety of Greene County reported that such an outfit was the best thing he ever tried for plowing. Warren Moffet of Macoupin County had a hitch demonstration at his farm last August. He adopted this 6-horse outfit for plowing and his hired man plowed with it all this spring. Early in the spring without the harrow he plowed 6 to 7 acres a day, and later on with a section of harrow attached he plowed 5 to 6 acres, and harrowed it twice as he went along.

EXTENSION SERVICE HANDBOOK

Reference was made to the above publication in our issue of December 1927. A limited number of fillers containing all the subject matter of the volume remain on hand and will be supplied as long as they last to those who have use for them. Make requests to this office. ---C.D.L.

RESULTS OF FIRST WINTER TON-LITTER CONTEST HELD IN UNITED STATES

By E. R. Eudaly, Swine Specialist
Extension Service, Texas A. and M. College

Texas, along with a great many other States, has conducted five ton-litter contents. These contests have all been summer contests, using spring-farrowed pigs. They have accomplished a great deal of good in Texas by producing an effective means of demonstrating the best practices of feeding and managing hogs during the spring and summer. Last year the Extension Service of the Texas A. and M. College decided that it would be a good thing to put on a winter ton-litter contest to demonstrate the best practices of feeding and managing hogs during the fall and winter, since the farmer must have his sows farrow twice a year if he is to produce his hogs for the least possible cost. The cost of the sow's feed and care for the entire year can then be charged to a greater number of pigs. Furthermore, the farmer will have better labor distribution throughout the year.

The rules of the winter ton-litter contest were as follows:

1. Any hog owner in Texas is eligible to enroll in the contest.
2. Litters must be farrowed within the period of August 15 to October 31, inclusive.
3. Hogs of any kind or breed are eligible -- they may be purebred, grade, or scrub.
4. Pigs raised on nurse sow, or hand fed, are not eligible to compete for the prizes.
5. Contestants are required to keep a record of the rations fed the sow during gestation period, and while suckling the pigs; also the feed given the pigs from beginning to end of feeding period. Ton-litter record books will be furnished for this purpose.
6. Litters must be weighed the day they are 150 days old. Awards will be made on actual weight above the minimum required weight. Preliminary weights should be made at intervals during the feeding period.
7. The required weight for different-sized litters is as follows:

7 pigs or less, -----	1,450 pounds
8-pig litter, -----	1,700 "
9-pig litter, -----	1,900 "
10 pigs and over, -----	2,000 "

8. A certified report of the final weight of the litter must be made by the person supervising the weighing on the official record book provided for that purpose, and forwarded to the swine specialist.

Money for premiums was donated by Swift and Company, Fort Worth; Armour and Company, Fort Worth; Fort Worth Stock Yards, Fort Worth; Universal Mills, Fort Worth; Purina Mills, Fort Worth; and The Progressive Farmer, Dallas, Texas.

Premium List

The cash premiums will be awarded as follows:

Heaviest litter of 7 pigs or less, -----	\$35.00
" " " 8 " -----	40.00
" " " 9 " -----	45.00
" " " 10 " -----	50.00
" " " 11 " -----	50.00
" " " 12 " or more, -----	50.00
Litter with highest average weight regardless of number of pigs, -----	75.00
Litter with second highest average weight regardless of number of pigs, -----	25.00
Litter with highest total weight regardless of number of pigs, -----	75.00
Litter with second highest total weight re- gardless of number of pigs, -----	25.00
Boys and girls only, between ages of 10 and 20 years:	
Ton litter with highest total weight per pig regardless of number of pigs, -----	50.00
Ton litter with highest average weight per pig regardless of number of pigs, -----	50.00

(Boys and girls may compete in other classes as well as in their own special classes).

Gold ton-litter medals will be awarded all contestants whose litters attain the minimum weight requirement at the end of the 150-day feeding period.

There were 65 contestants scattered over 20 counties. Below we give a comparison of the results of the 1928 summer ton-litter contest and the winter ton-litter contest.

The average weight per pig of all the summer ton-litters at 150 days of age was 194.9 pounds.

The average weight per pig of all winter ton-litters at 150 days of age was 200 pounds.

The greatest average weight per pig in the summer contest was 242.7 pounds, made by J. P. Keaton of Pearl, Texas, with a litter of eight Poland China pigs.

The greatest average weight per pig in the winter contest was 225 pounds made by J. E. Rigler of Plainview, Texas, with a litter of eight Poland China pigs.

The greatest total weight per litter, on the 150th day in the summer was 2,441 pounds, made by A. D. Chambers of Gatesville, with a litter of 11 Poland China-Duroc-Jersey crossbreds.

The greatest total weight per litter, on the 150th day in the winter contest was 2,292 pounds made by Hardy N. Hay of Waco, with a litter of eleven Duroc-Jersey pigs.

The average cost of production of all the litters in the summer contest was 6 cents per pound.

The average cost of production of all the litters in the winter contest was 6.7 cents per pound.

In all cases, cost of production included cost of feed given the sow from date of breeding to date of weaning of the pigs, boar service, a pasture charge and cost of all feed fed the pigs from the time they started eating until they were weighed on the 150th day.

The winning litter in both the summer contest and the winter contest was fed corn meal and the protein supplement mixture recommended by the Texas Extension Service.

And I have said, and I say it ever,
As the years go on and the world goes over,
'Twere better to be content and clever
In the tending of cattle and the tossing of clover,
In the grazing of cattle and the growing of grain -
Than a strong man striving for fame or gain.
----Joaquin Miller.

ARKANSAS TON-LITTER WORK

By M. W. Muldrow, Animal Husbandry Specialist.

Unlike the Corn Belt States, Arkansas does not fatten so many hogs as are shipped out as feeders. At first thought, therefore, one might think that the ton-litter demonstrations would not be popular with us; however, there are sections in river bottoms in all hill counties which grow a surplus of corn. Also, in the plantation sections the tendency is toward larger acreages of corn. On practically all small farms hogs are fattened for the home meat supply; therefore, the single-litter feeding demonstration is useful in promoting the use of a balanced ration and pasture. As a project we ask for only two or three ton-litter demonstrations to a county and use them as a basis of a field-day program on swine production. There is no inclination on our part nor any need to have the ton-litter work go forward as a herd-production contest as has been done in the Corn Belt States.

We recommend the use of a self-feeder and require a good permanent pasture or temporary pasture to be used in connection with our ton-litter demonstrations. In submitting cost records we do not count cost of pasture. The importance of a protein supplement has been greatly emphasized through these demonstrations this year and we are stressing the possibility of using a protein supplement of equal parts tankage and cottonseed meal. We have found that we have stimulated interest in better swine management practices and agents who have fostered the work report that it has been more successful than any other swine demonstration they have attempted.

Since 1925 State cash prizes have been offered in addition to prizes at the Arkansas State Fair. In 1928 counties were asked to finance county contests in order to stimulate local interest, and State cash prizes, other than the State Fair prizes, were discontinued. The State Fair show was changed from a single entry basis to a County basis in 1928 requiring three litters from one county, and will be composed of exhibits from the three highest scoring counties in the State. Rules for the State contest are as follows:

Rules of Ton-Litter Contest - 1928

1. Any hog grower in the State may enter the contest by nominating a sow. There is no entry charge. Purebreds or grades may be used.
2. The county agent or other representative of the College of Agriculture shall in the beginning certify to the date of birth and

the number of pigs per litter and again at the end of a 165 to 180-day period he shall certify to and weigh the litter.

3. The minimum requirement for weight shall be 1700 pounds at 165 days and 2000 pounds at 180 days (a ton in six months). In case a record is closed on the 165th day or any day up to the 180th day, twenty pounds per day for every day under 180 days may be added to the actual weight of litter in question. Any grower who obtains these standard weights and submits feeds fed with a statement of pasture used will automatically become a member of the Arkansas Ton Litter Club and will be awarded the Arkansas Ton Litter watch fob.

4. Awards for the State contest shall be based on scores according to the following:

Largest average weight per pig -----	50 per cent
Cost per hundredweight -----	25 per cent
Profit -----	25 per cent

(a) The total weight per litter at 180 days of age divided by the number of pigs per litter shall be the average weight per pig. Litters less than 180 days of age down to 165 days of age may be shown, provided they weigh 1700 pounds. For every day under 180 days, twenty pounds may be added to the weight of the litter to determine the total weight at 180 days.

(b) Cost per hundredweight shall be determined by total cost of production divided by the hundred pounds in each litter. Total cost of production shall be determined by a \$25 charge on sow and litter to weaning age plus the cost of feeds fed from eight weeks to 180 days of age, all feeds to be figured at a standard price for all litters. Litters under 180 days of age shall have additional weights figured at a cost of \$7.50 per hundredweight.

(c) The total weight of each litter shall be multiplied by a standard price per hundredweight for all litters and this sum minus the total cost of production shall represent the profit.

The Arkansas State Fair is offering \$270 as first prize; \$240 second prize; and \$210, third prize, to the three highest-scoring counties in the State contest. The score of a county shall be the sum of three scores made by an individual grower or individual growers with a litter of pigs in a county ton-litter contest. The highest scoring litter exhibiting will be awarded \$30 in addition to its pro-rata part in the above prizes.

"Experience is what we get when a thing turns out different to what we expected."

U.S.D.A. MOTION PICTURES ON LIVESTOCK SUBJECTS

The following films are available to responsible agencies or persons for educational use. There are no charges except for transportation, which the borrower is required to pay both ways. Requests are filled in order of their receipt. Make applications to the Office of Motion Pictures, Extension Service, U. S. Department of Agriculture, Washington, D. C. A publication giving a complete list of films on all subjects is available on request.

Sir Loin of T-Bone Ranch. 3 reels (2,610 feet). - Western range-cattle industry, with special reference to production of good beef.

The Green Barrier. 2 reels (1,953 feet). - A story of cattle grazing in the Piney Woods areas of the South, emphasizing the evils of firing the woods to "green up" the pasture.

The Cow Business. 2 reels (1,596 feet). - Beef-cattle industry in the western United States, contrasting methods of the early cowman with present practice.

She's Wild. 1 reel (972 feet). - Cowboys on the western cattle ranges.

Out of the Shadows. 2 reels (1,797 feet). - Animal tuberculosis.

Clean Herds--and Hearts. 4 reels (3,762 feet). - A sequel to "Out of the Shadows," picturing a community campaign for the eradication of animal tuberculosis.

Suppressing Foot-and-Mouth Disease. 2 reels (1,552 feet).

Mollie of Pine Grove Vat. 3 reels (2,754 feet). - Showing tick eradication work in the South.

Charge of the Tick Brigade. 1 reel (686 feet). - An animated cartoon; cattle attacked by fever ticks.

The Ox Warble--A Fifty-Million-Dollar Tune. 1 reel (962 feet).

Stable Flies and Their Control. 1 reel (814 feet).

Screw Worms--How to Fight Them. 1 reel (788 feet).

Horn Flies--Pests of Cattle. 1 reel (724 feet). - Methods of control used in the Southwestern States.

The Horse and Man. 1 reel (1,001 feet). - An acknowledgment of the horse's part in the conquest of the New World and in modern American life.

The Horse in Motion. 1 reel (911 feet). - A study of the various gaits of horses.

High Steppers. 1 reel (959 feet). - Types of light horses.

The Woolly West. 2 reels (1,976 feet). - Shows approved methods in range sheep management.

Sheep in Psalm and Sage. 1 reel (834 feet). - The significance of sheep to man, economically and spiritually.

Lamb and Mutton for Home Use. 1 reel (937 feet). - Dressing and preparing lamb and mutton for use on the farm.

A Year with the Flock. 1 reel (979 feet).

From Wool to Cloth. 2 reels (1,892 feet).

The Golden Fleece. 1 reel (978 feet). - Clean handling of wool, grading, and cooperative selling.

Exit Ascaris. 2 reels (1,869 feet). - Methods of controlling roundworms in pigs.

Bob Farnum's Ton Litter. 2 reels (1,947 feet).

Behind the Breakfast Plate. 1 reel (1,003 feet). - The story of bacon from the Corn Belt to your breakfast plate.

The Honor of the Little Purple Stamp. 1 reel (1,002 feet). - The meaning of the Federal inspection mark on meats.

Guarding Livestock Health. 1 reel (991 feet). - Care of the animals in transit, in the stockyards, and so forth.

Grazing on National Forests. 1 reel (805 feet).

This Little Pig Stayed Home. 2 reels (1655 feet). - Method of control of hog cholera.

T.B. Or Not T.B. 2 reels (1,673 feet). - Fowl tuberculosis and methods of combating it.

The Barnyard Underworld. 1 reel (989 feet). - Barnyard sanitation.

Cooperative Marketing - Livestock. 2 reels (1,985 feet).

Southern Cattle Yesterday and Today. 1 reel (1,033 feet). - Eradication of the cattle fever tick and the improvement that has followed.

Shed Lambing in the West. 1 reel (690 feet).

The Beefsteak Bequest. 1 reel. - Benefits to be derived through the use of purebred sires in beef-cattle production.

WHAT PROFITS MOST

The man who all his profit counts in mere financial gain,
Has missed the finest of rewards and lives his life in vain.
The wealth that really is worth while, the profits that endure,
Though not so tangible as gold are vastly more secure.
In altruistic leadership and service freely spent
Are greatest compensations found, and well deserved content.
The moments spared from busy lives to lead our fellow men
To new achievements that as yet are quite beyond their ken,
Are moments fraught with happiness and pleasures that outweigh
All treasures golden wealth can buy, or selfish dreams portray.
The satisfaction in the task, when it has been well done,
The stimulating consciousness that 'twas a worthy one.
The broader vision that it gives, the new out-look on life,
The substitution of good will for jealousy and strife,
The spiritual and mental growth of leader and of led,
The vision of the future that the leader sees ahead,
The courage that is given him to brave his own despairs,
Because he helped his fellowmen to triumph over theirs,
The high esteem in which he's held by those whom he has served
The friendliness and kindness on every side observed,--
Are but a few of the rewards that fortune holds in hand
For those who give in leadership the best that they command.
The leader who with goal ahead leads on to his ideal
Submerging his own selfishness to serve the common weal,
More nearly reaches that ideal than any that he leads,
And thus unconsciously becomes the man his country needs.
Nor need one crave the larger task, or deem it nothing worth
Unless his deed spectacular is known o'er all the earth.
Through little deeds of leadership we reach sublimest height,
By little triumphs over wrong we reconstruct the right.
The cup of water in His name will bring its due reward,
And kindness to His needy ones will never be ignored.
The bread upon the waters cast in future days returns,
A deed of kindly service, too, its compound interest earns.
So do not all your profit count in terms of sordid pelf,
The best rewards are only won when you invest yourself.

--- Alfred Vivian.

BEADLE COUNTY, SOUTH DAKOTA, SIRE EXCHANGE

By W. R. Hauser, Assistant State Club Leader

The Beadle County Farm Bureau, under the efficient management of county agent Dick Lewallen, staged a sire exchange at the South Dakota State Fair Grounds last October. It is the first exchange of its kind ever held in this State.

The sire exchange was attended by about 500 farmers and was considered a real success. Little groups could be heard discussing the wonderful possibilities of improving the livestock of the county and the great convenience to the farmers of this enterprise.

The county agent discussed with groups of farmers throughout the day the advisability of making the exchange an annual affair. Not one farmer disapproved of the exchange or its management, and so far as could be learned, they all want the exchange made an annual event.

Thirty-one boars, 11 rams, and 2 bulls were entered in the Exchange by 16 farmers. With the exception of 2 very poor boars, the owners had the opportunity to trade or sell every animal present. There were calls for many more rams than were offered. Good bulls of all the beef breeds could have moved readily. There were some calls for dairy bulls. Some of the men that offered boars for sale sold those they had in the exchange and made appointments at their farms to sell others.

To cover the expense of printing exchange cards and of bedding and the necessary work in cleaning the stalls and pens, a charge of 25 cents was made for boars and rams, and 50 cents for bulls. A sample of the cards which were filled out and tacked on each stall or pen is included in this article.

From the experience of this exchange it would seem advisable to make no restriction as to quality or breeding of the animals offered. In this way the farmers are not antagonized and the exchange is a great factor in education for the farmers to use purebred sires and to keep up the papers on them.

The matter of judging the animals offered in the exchange was given some consideration but it was thought that this would cause too much dissatisfaction. A sire-selection demonstration put on at the opening of the exchange would accomplish all the good that placing

the animals could do and no dissatisfaction or ill-feeling would be developed.

The farmers were not confused by a bunch of miscellaneous material. They kept their mind on the business of selecting a sire for their herd from the individuals offered of the breed of their choice. They visited, compared and discussed the merits of various animals and they had as much fun as they could have had at any picnic. Several farmers were heard to express their intentions of buying a purebred sow as they would now have an excellent opportunity to dispose of the extra boar pigs.

A meeting will be called of those farmers interested in the livestock of Beadle County for the purpose of forming the Beadle County Livestock Improvement Association. The word, purebred, has been left out intentionally to encourage those that are not using purebreds to become members of the organization so that they will learn the advantages of purebreds. This association was discussed at the exchange and the farmers were greatly in favor of it. The plan as roughly outlined is to have this association organized for the purpose of conducting the exchange and doing other practical things to improve the livestock of the district. They contemplate charging a membership fee of one dollar. This should leave enough after necessary printing and postage expense has been paid to put on a moderate banquet. The banquet will be held the evening of the day that the entries are brought to the exchange and following the banquet the annual meeting of the association will be held. The annual meeting, thus preceding the day the exchange is open for business, will give the members an excellent opportunity to have the exchange conducted as they wish.

A sample of the exchange card used follows:

S I R E E X C H A N G E

Each member of this Exchange assumes all responsibility as to guarantees regarding his animals.

The Exchange provides the opportunity for you to buy, sell, or exchange sires.

Name							
Breed							
Reg. No.				Age			
Remarks	Sire: Son of #1000 Cow.						
Dam: Better than #1000 record. All his daughters excel their dam's records. Will exchange for bull of equal merits.							
Price - \$500.00							
Owner	John Dough						
Address Alfalfa Valley, South Dakota							
Location	4	N.	2-1/2	E.	S.	W.	

The following circular letter was sent to township cooperators.

In addition, a newspaper article was printed during each of the three weeks preceding the event.

Huron, S. Dak.
October 10, 1927.

Dear Sir:

You have been selected to represent the Beadle County Sire Exchange in your community.

We want every farmer to know that the Exchange will be open to receive entries Friday, October 14; and it will be open for business Saturday, October 15. It will be held in the Horse Barn on the State Fair Grounds.

Please announce this on your phone lines Wednesday.

A charge of 25 cents for boars and rams, and 50 cents for bulls will be made to cover cost of bedding and cleaning stalls and pens.

We are depending on you to help make this exchange a success.

Thanking you for your cooperation, I am

Very truly yours,

E. F. Prevert,
Manager.

4-H LIVESTOCK CLUB WORK

Our 4-H Club was built around the boy - not the pig, or calf, or lamb. We believe we have reached that stage in livestock club work where demonstration for the benefit of others ends and a project program for the benefit of those participating should begin. Our livestock club boys and girls are essentially a complete project within themselves and not a means to an end. Our boys and girls are no longer being used to improve our cattle and hogs but quite to the contrary our cattle and hogs are being used as a medium for the improvement of our boys and girls. Our efforts will, we hope, be analyzed not from a standpoint of how many pigs or how many calves or how many farms, but rather how many boys and girls did it improve? Our goals in club work are to properly train a personnel to man the livestock business of the future. With that personnel properly trained we need have no fear about the future welfare of the industry.

-- From Nebraska Animal Husbandry Report-1927.

WAR ON SCRUBS

The West Virginia Cooperative Livestock Shippers' Association and its allies have declared war on all the scrub beef bulls, mutton rams, and boars in West Virginia. The allies that have joined forces with the association are the county cooperative livestock shippers' associations, county farm Bureaus, State Department of Agriculture, and Agricultural Extension Division with its corps of county agents and animal husbandry workers.

Special recognition will be given to the county farm bureaus and shipping associations in the three counties that rid their boundaries of the largest number of scrub beef bulls, mutton rams, and boars and place the largest number of good purebred beef bulls, mutton rams, and boars in the county, between January 1 and November 1, 1928.

This recognition will be in the form of money prizes and will be awarded with the understanding that the officials of these organizations will use said money for an educational trip, toward paying the expenses of its county agent to the International Livestock Exposition at Chicago, which comes the first week in December of this year. Such a trip will give the county agent valuable information that he can bring back to his county and put into his program of work.

Recognition will be given on the point basis. For every scrub beef bull castrated or shipped to market, 600 points will be given; for every scrub mutton ram 400 points, and for every scrub boar 200 points.

For each good purebred beef bull, mutton ram, or boar placed with farmers, 500 points will be given on each beef bull, 300 points on each mutton ram, and 100 points on each boar. To be considered purebred an animal must be eligible to registry in its breed association.

For further information get in touch with Benj. F. Creech, Extension Animal Husbandman, Morgantown, W. Va.

--- Circular issued by W. Va. Extension Service.
